DOCUMENT RESUME

ED 268 444 CG 019 003

AUTHOR Bachman, Jerald G.
TITLE From "Youth in Transition" to "Monitoring the Future": A Tale of Two Longitudinal Studies of Youth in the United States.
PUB DATE 17 Apr 86
NOTE 13p.; Paper presented at the Annual Meeting of the American Educational Research Association (70th, San Francisco, CA, April 16-20, 1986). Figures may be marginally reproducible due to small print.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adolescents; *Dropout Research; *Drug Use; Followup Studies; High Schools; *High School Seniors; *Longitudinal Studies; *Research Design; Research Methodology; *Trend Analysis; Young Adults

ABSTRACT

This paper uses a case history approach to present the evolution of two longitudinal studies, Youth in Transition, which involved 8 years of data collection (1966-1974) and Monitoring the Future, for which data collection began in 1975 and continues in the present. The Youth in Transition project is described as a study of the causes and consequences of dropping out of high school. Five key decisions about research design made during the program planning phase are discussed. Expansions of the project over an 8-year period are explained. It is noted that the Youth in Transition study laid the groundwork for the Monitorig the Future project and that the studies share similarities in content and methodology. Eight lessons which were learned from the Youth in Transition study and which affected plans for the Monitoring the Future project are listed. The Monitoring the Future project is described as an attempt to extend many of the trend analyses from the first study. Funding, initial data collection from 16,000 seniors in 125 high schools, and follow-up data collections are briefly presented. It is noted that one important product of this project has been extensive descriptive reporting of drug use levels and trends among high school seniors. A continuation of the collection, analysis, and reporting of these data is recommended, especially since the lengthening span of time makes the analyses richer with each new year of data collection. (NB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED268444

From "Youth in Transition" to "Monitoring the Future": A Tale of Two Longitudinal Studies of Youth in the United States

Jerald G. Bachman
Institute for Social Research
The University of Michigan

CG 019003

Paper presented in symposium on "National Longitudinal Surveys of Youth in Industrialized Countries: Perceptions of Funding Agencies, Researchers, and Administrators," at the annual meeting of the American Educational Research Association, San Francisco, California, April 17, 1986.

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Jerald G. Bachman

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

From "Youth in Transition" to "Monitoring the Future": A Tale of Two Longitudinal Studies of Youth in the United States

Jerald G. Bachman
Institute for Social Research
The University of Michigan

The abstract for this symposium promises that participants will discuss longitudinal studies with which they have been involved. We are to speak of many things: original purposes, financial support, relationships with funding agencies, and policy interests—not to mention problems of study design, management, and analysis. And if all that is not enough, we should also illustrate with examples of major findings which have led to new research, or have affected policy. But not to worry, each of us has a full 15–20 minutes in which to do the job.

Faced with that assignment, I have decided to talk about not one study, but two. The first study, "Youth in Transition," began in 1965; it involved an eight-year span of data collection (1966–1974); after that there were several additional years of fairly intensive analysis and writing. Now it has been more than a decade since the main funding for the project ended, but the data are archived and continue to be used by a variety of analysts dealing with a wide range of topics.

The second study, "Monitoring the Future," grew out of our experiences with the first study, but is different in many ways. Data collections on the second study began in 1975; they are continuing now; and we hope they will extend for years into the future.

In presenting these two studies, I will take a sort of case history approach. I will recount how each study evolved, and in so doing I will try to touch on many of the topics mentioned in the symposium abstract. In a variety of publications we have reported findings from both studies in some detail, including several summary overviews. What has not been presented elsewhere, however, is the account of how we managed to get these studies going and keep them going. I think such stories are interesting, and I hope they are useful to others. I welcome this opportunity to tell ours.[1]

---

[1]My approach here will be anecdotal and somewhat informal. Those interested in a more detailed and systematic overview of Youth in Transition are referred to J.G. Bachman and P.M. O'Malley, "The Youth in Transition Series: A Study of Change and Stability in Young Men," in A.C. Kerckhoff (Ed.) Research in Sociology of Education and Socialization, Vol. 1. Greenwich: JAI Press, 1980. For a summary of recent findings from Monitoring the Future, see J.G. Bachman, L. D. Johnston, and P.M. O'Malley, "Recent Findings from Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth," in F.M. Andrews (Ed.) Research on the Quality of Life. Ann Arbor: Institute for Social Research, 1986. See also other publications cited as sources for tables and figures.

Youth in Transition

The Youth in Transition project was launched in 1965 with a contract from the U.S. Office of Education. Robert Kahn and I were the principal investigators initially, and later I was primarily responsible for the project. Youth in Transition began as a study of the causes and consequences of dropping out of high school. We planned to select a sample of young men in public high schools, and follow them over a three-year period from the start of tenth grade to a point when some would have dropped out of high school and most would have graduated. The total contract award was for about a million dollars, and included a full year for planning and pilot studies—at the time both the budget and planning period were considered quite substantial.

A number of key decisions about research design were made in developing the proposal and in the first planning months:

1. We decided that we should concentrate on young men, because we felt that the dynamics of dropping out of high school were somewhat different for males and females. We thought it might be possible to carry out a parallel study with females later, but that did not happen. In the end, we concluded that many of our findings probably applied about as well to females as to males—indeed, in several instances we were able to confirm that through the use of other datasets. Nevertheless, the Youth in Transition project involved males only, and we often had occasion to regret that. (We do, however, learn from our experiences: the current Monitoring the Future project includes both males and females, and we have reported some interesting contrasts as well as similarities.)

2. A very fortunate decision was to select our sample in schools, and to do so in ways that would make the sample nationally representative. The Survey Research Center has a nationwide staff of trained interviewers, as well as a Sampling Section capable of drawing a representative sample of schools; thus, we were able to do a nationwide study for just about the same cost as if we had done a study of dropouts in Michigan or in the Detroit metropolitan area. Nevertheless, when we first got into the problems of selecting and recruiting schools, I remember saying to Leslie Kish, then Head of our Sampling Section, that a really accurate sample was not all that important; after all, we were primarily interested in relationships and in contrasting dropouts with stay-ins, rather than providing accurate descriptive data. That blunder earned me a vigorous lecture on the value of accurate samples, the gist of which was that although we were presently thinking only of relational analyses, there would soon be times when we—and others using the dataset—would very much want to say that our data are representative of some larger universe. Leslie was entirely correct; the nationally representative sample turned out to be a most valuable feature of the Youth in Transition project.

3. We decided that our initial data collection should take place in the schools and during school hours. We used individual interviews, followed by group-administered tests and questionnaires. But since our focus was on comparing dropouts with stay-ins, we decided that our follow-up data collections—which would occur after some had dropped out of school—should not be carried out on school grounds. Neither, however, did we want to conduct interviews in respondents' homes, since concerns about privacy (risks of being overheard by family members) might have compromised the interview situation. Instead, we asked interviewers to locate "neutral sites" near the schools. The interviewers used great resourcefulness in some cases in lining up places where they could conduct interview and questionnaire sessions with a reasonable degree of comfort and privacy. The sites covered a wide range, including library conference rooms, church basements, and at least one back room of a gasoline station. Judging from the quality of data obtained, and also from the relatively low panel losses, the interviewers' efforts were highly successful.

4. We followed a strategy of using a wide range of measures for a number of different purposes. In particular, we recognized that many of the concepts we measured could be viewed as both causes and consequences: in one phase of analysis they serve as predictors (or independent variables), and in another phase as criteria (or dependent variables). As examples, self-esteem and delinquent behavior were among the many variables we explored as possible predictors of educational outcomes (those low in self-esteem, and those high in delinquency, were more likely to become dropouts); but we also examined educational attainment as a possible predictor of changes in self-esteem and delinquency (we found no clear evidence that dropping out further damaged self-esteem or increased delinquency).

5. A related feature of Youth in Transition was the use of repeated measurement of the same dimensions at multiple points in time. Thus, for example, we did not wait for the "end" of the study to measure self-esteem or delinquency; rather, we measured these and many other "criterion" dimensions at each data collection. That permitted us to compare "before" and "after" data; it also got us involved with the complex problems of measuring change using panel data—problems which show no sign of abating.

I said a little earlier that Youth in Transition was initially designed as a three-year study of causes and consequences of dropping out of high school. The study expanded in several directions, however. The first such expansion took place after the initial two data collections (Fall, 1966, start of tenth grade; Spring, 1968, end of eleventh grade). An opportunity arose for an extra data collection in Spring of 1969, just before most of our respondents were due to graduate. The data collection was funded by the Office of the Secretary of Defense, and had as its primary purpose the exploration of young men's views about military service (in anticipation of the conversion from a draft to an all-volunteer force). The funds for this extra data collection were limited, so we designed a follow-up survey consisting entirely of questionnaires, which were administered in small groups in neutral sites. Our arrangements with this sponsor permitted us to include most of the central core of the Youth in Transition repeated measures. Many of these (such as self-esteem, delinquency, mental health measures) were already in questionnaire rather than interview format. Other dimensions (such as occupational aspirations) were converted to questionnaire format with little or no loss in comparability (based on later analyses).

This first major expansion of the study carried a number of lessons for us. We learned that having an ongoing study in place opened up opportunities which might otherwise not exist. We learned also that we could serve multiple purposes with a data collection and keep both sponsors happy. (The Department of Defense was happy to "buy into" an existing study offering a relatively low-cost data collection and the use of a large amount of relevant test, interview, and questionnaire data already obtained in earlier data collections; the Office of Education was happy to have an extra data collection including many of "their" measures at no additional cost.) We also recognized that the nationally representative aspect of the study was a critical factor in making such an expansion possible. Finally, on the methodological side, we learned that a survey involving only pencil and paper questionnaires was almost as useful to us as one involving both interviews and questionnaires. We have put that lesson to use many times since then.

The final data collection funded under the original contract with the Office of Education took place in Spring of 1970, nearly a year after most of our respondents had graduated from high school. At this point, we still had the participation of over seventy

percent of our original target sample.[2]

Although the numbers of dropouts in our study were modest, our analysis titled "Dropping Out—Problem or Symptom?" led to some fairly clear conclusions. One such conclusion was that dropping out is much more a symptom of earlier problems than it is a cause of additional problems. As I indicated earlier, we found that while dropouts were below average in self-esteem and above average in delinquent behaviors, both of these patterns were clearly in evidence at the start of tenth grade—well before the time when the dropping out occurred. Moreover, the data on change showed no evidence that dropping out had made such matters worse. The one clear disadvantage suffered by dropouts was a higher rate of unemployment compared with those whose education ended with high school graduation. But even here we do not have change data, and are thus left with a good deal of uncertainty: Does the lack of a high school diploma, and whatever would have been learned in the last year or two of school, heighten unemployment? Or is it the case that some individuals are less likely to "fit in" either in school or in jobs? I suspect that the answer is "some of each."

Another important conclusion from our analyses at this point was that the largest differences did not lie between dropouts and those whose education ended with high school graduation. Rather, the big contrasts lay mostly between those who went to college and those who did not. If one compared dropouts with all graduates, one might fail to recognize the extent to which a dropout "effect" (or correlate) is really mostly a college "effect" (or correlate). We thus concluded that the study had grown into a study of causes and consequences of educational attainment more broadly, rather than simply the beginning end of the attainment scale (completing high school or not).

Given these findings, it seemed useful to think in terms of a longer-range follow-up which would survey our respondents after most had a chance to complete college, and some had entered into graduate-level education. This led us to seek support for what became the fifth Youth in Transition data collection; funded primarily by a grant from the National Institute for Education, we conducted a mail questionnaire survey in 1974. This lengthened the longitudinal span of the study from four to eight years, and allowed us to carry out a much more complete analysis of causes and consequences of educational attainment. Our earlier conclusions were largely supported and elaborated by the analyses of this final survey; most factors correlated with educational attainment were evident at the start of tenth grade, thus indicating that many correlates of college graduation, for example, are better thought of as precursors rather than as results of the college experience. (The findings for self-esteem, shown in Figure 1, provide a good example.)

It is of interest to note that the response rates for the mail follow-up survey at Time 5 were virtually identical to those obtained four years earlier; there were some Time 4 participants who failed to participate at Time 5, but we were able to make up for those losses by reaching and including some respondents at Time 5 who had missed the Time 4

---

[2]Our losses were somewhat greater among dropouts. Fortunately, even when respondents did not fully participate in follow-ups we were often able to learn about their educational attainment, and thus include their data in some phases of our analyses. Specifically, we had 157 participants in the fourth data collection who had dropped out of high school, and we identified another 129 non-participants (at Time 4) who had also dropped out. Thus, in our analyses of factors predicting dropping out, we had a total of 286 identified dropouts; but in analyzing any changes that might have resulted from dropping out, we had only the 157 cases who participated at Time 4.

survey. A summary of all five data collections, procedures, and response rates is provided in Table 1. I should note at this point that we had adopted the practice of providing a small payment to respondents in appreciation of their participation. At the second data collection it was $2 as a way of covering any transportation costs. It was increased to $5 for the third data collection, and $10 for the fourth and fifth. I have no doubt that this improved our response rates.

I have already described two major expansions of Youth in Transition in the form of two extra data collections, which extended a planned three-year study of dropping out into an eight-year study of a much broader range of educational attainment. There were also a variety of less dramatic expansions of the study, which took the form of additional survey content. The most important of these was the inclusion in the Time 4 data collection, and again in Time 5, of a series of questions about drug use and related attitudes. The questions were included in the Time 4 data collection, with the permission of the Office of Education sponsor, because we all agreed that this was an important area of youth behavior that was worth assessing. One of the results of including these items was that we were able to show important links with educational attainment. The most dramatic of these was the finding that cigarette smoking shows a very strong inverse correlation with educational attainment. Moreover, the differences in smoking rates were evident for the year in which the respondents graduated from high school—in other words, the differential smoking rates generally preceded the differences in eventual educational attainment (see Figure 2). A second outcome of including the drug items was that Lloyd Johnston, at that time a graduate student working on the Youth in Transition project, was able to obtain a modest grant from the W.T. Grant Foundation in order to do a more extensive analysis of the drug data, which was published as "Drugs and American Youth." Because this was one of the earliest nationally representative reports on drug use, even though it involved only males, the report filled an important need in the newly developing field of research on drug use. It also laid the groundwork for the primary sponsorship of our second major longitudinal study of youth, Monitoring the Future.

Monitoring the Future

The Monitoring the Future project had its roots in our experiences with the Youth in Transition project, and there are thus a number of similarities between the two studies—in both content and methodology. But there are also a number of very important differences between the two projects. Before describing the Monitoring the Future project and the way that it was launched, let me mention some of the lessons we learned from Youth in Transition and how these affected plans for our new project.

I spoke of some of these lessons earlier, and need only mention them again:

1. Having an ongoing study in place can open up new research opportunities which would otherwise not be available.

2. It is possible to serve multiple purposes with the same data collection, thus sometimes satisfying several sponsors.

3. There are great economies in school-based data collections.

4. A great deal of useful survey data can be collected without using personal interviews, but simply by using paper-and-pencil questionnaires.

Several other lessons from Youth and Transition also helped shape plans for our

new project:

1. There is a broad interest in descriptive data about youth based on nationally representative samples. We found not only social scientists, but also educators, journalists, and policy-makers, all wanted to know more about what young people were thinking and doing and planning for their futures.

2. Research interests—and public policy interests—shift over time; thus, when engaged in a long-term research project, there are advantages in having a considerable breadth of measurement coverage.

3. Some of the most interesting measurement areas in Youth in Transition turned out to be "social indicators" which changed during the course of the study. For example, concern about the war in Vietnam rose substantially over the course of our study. Also, there were large shifts in trust in government.

4. The examples above also point to a problem of interpretation when one finds changes in a single-cohort panel study such as Youth in Transition. Findings from that study might have suggested that as young men go from age 15 to age 23—i.e., from late adolescence to early adulthood—they become more disillusioned or cynical about government. Certainly they showed a sharp decline in our measures of trust in government. But that shift occurred during the period of 1966 through 1974, and various other surveys of adult cross-sections showed an equally large decline in government trust during that period. In other words, what was really going on was not some age-related effect, but rather a secular trend which affected the United States as a whole. In the absence of such other survey data, our longitudinal study following a single cohort could not have distinguished between these two interpretations.

Based on these and other experiences during the first half of the Youth in Transition project, it seemed to me that we ought to develop a new study which would extend many of the trend analyses which were becoming increasingly interesting to us. Lloyd Johnston and I began the design work as early as 1969 for a new project to be called "Monitoring the Future, An Ongoing Study of the Lifestyles and Values of Youth." We developed the design and several preliminary proposals for a study which would sample each new graduating class of high school seniors, and then follow-up a subsample of them for a number of years afterward. The notion was that our initial data collection would reflect the cumulative effects of home and school on lifestyles and values, and then the follow-ups would tell us much about the changes which occur during the various transitions to full adult roles and responsibilities.

Our interests at this point were wide ranging, including plans and attitudes relating to education, occupation, marriage, parenthood, use of leisure time, political involvement, and various other aspects of lifestyles and values. One set of dimensions, which would become most important to the future of the project, was drug use and related attitudes and experiences.

During the early 1970's we made a number of attempts to locate sponsors willing to fund such a broad-gauged research effort. We also thought in terms of coalitions of sponsors which could share the costs. Alas, while the design seemed interesting and attractive, we could not find either a single sponsor or a consortium that would be willing to undertake the sort of ongoing social indicator project we envisioned. That state of affairs continued for several years, until the National Institute on Drug Abuse (originally the White House Special Action Office on Drug Abuse Prevention) became interested in our Youth in Transition findings on drug use. That agency helped fund the 1974 mail follow-

up of the Youth in Transition panel. More importantly, they provided the launching grant, and primary funding thereafter, for a Monitoring the Future project that deals extensively, but by no means exclusively, with drug use.

Monitoring the Future undertook its first data collection in the Spring of 1975, surveying nearly 16,000 seniors in 125 public and private high schools. Each year since then we have surveyed another 16,000–19,000 seniors located in approximately 130 schools. (The schools are asked to participate for two years; each year we replace half of the sample. The schools are selected so as to be representative of the 48 coterminous states.) The surveys involve optically-scanned questionnaires, group-administered in classrooms, under the supervision of trained field interviewers employed by the Institute for Social Research. Each senior participating in the survey is asked to provide name and address, using a form that is detached from the back of the questionnaire and can be linked to the questionnaire only by a code number (different from the number on the questionnaire). These identifications serve two purposes: all seniors are sent a newsletter providing highlights of survey findings; also, a subsample is drawn from each senior survey, and those sampled are asked to participate in follow-up data collections.

The follow-ups involve mailed questionnaires, in most respects very similar to the base-year questionnaires. After trying the follow-ups without any payment, and experiencing unacceptable response rates, we now (starting with the 1978 follow-up) include a five dollar check with the questionnaire when it is mailed out. This, coupled with several mail prompts and a telephone prompt when needed, results in response rates of about 85 percent during the first year or two after high school, and retained rates of about 75 percent over periods of nearly ten years.

Although our initial plan was to follow respondents for up to six years after high school, we revised our plans to extend to ten years (and we will soon face the problem of whether some longer-range follow-ups are warranted). At this point we have senior-year samples from each graduating class starting with 1975, and we have follow-up data from each class starting with 1976 (we dropped follow-ups of the 1975 class due to several non-comparabilities between their data and procedures and those of all following classes). This "cohort-sequential design" has permitted us to draw some important, yet sometimes fairly subtle, distinctions among three kinds of trends: age-related effects, cohort differences, and secular trends. I will illustrate each kind of finding in a few moments.

First, however, I should point out that one of the most important products of the Monitoring the Future project, certainly in terms of sponsor interest and societal impact, has been our extensive descriptive reporting of drug use levels and trends among high school seniors during the late seventies and early eighties. Consider, for example, our findings that in 1979 about one in nine high school seniors used marijuana on a daily or near daily basis, and more than one third of all seniors reported using marijuana at least once during the past 30 days. Findings such as these helped policy-makers in government, education, and the media realize just how extensive the problem had become. In subsequent years we were able to report some reductions in rates of marijuana use, and continuing declines in rates of cigarette use, as we extended our reporting from one graduating class to another (see Figure 3). (During recent years, however, we have also had to report increased use of cocaine; thus our trend data have provided a mixture of good news and bad news.) The reporting based only on seniors, while interesting and important, left some questions remaining about the nature of the trends we were observing, and here is where the follow-up data on multiple cohorts proved to be especially helpful.

Figure 4 displays the multi-cohort panel findings on proportions of young people

using marijuana on a daily (or near daily) basis. Note that 1979 is the peak year in terms of daily use for those who graduated in each prior class, as well as for the class of 1979. Thus, our best basis for "predicting" rate of daily marijuana use is simply the year of the survey, not age or year of graduation (within, of course, the overall age range shown in the figure). In other words, the data are most readily interpreted as reflecting a secular trend rather than either cohort differences or age-related effects.

But the findings for cigarette use, shown in Figure 5, are different and lead to a different set of conclusions. Here we see that although there are important differences from one year to the next, there are also age-linked differences and cohort differences which are not explainable simply in terms of year of survey. In each graduating class the rate of daily cigarette use is higher at the first follow-up than at the base year. In most cases this represents occasional smokers during high school who become daily smokers afterward. This is clearly an age-related shift, although we think the explanation for the shift lies in the move to less restrained environments (leaving high school, and in some cases moving out of the parental home) rather than in some "maturational" process occurring around age 18 or 19. The second phenomenon illustrated in Figure 5 is that there remain ongoing differences from one cohort to another; whether we hold constant year of survey or age of respondent, we see that those who graduated in the late seventies are more likely to be daily smokers than those who graduated in the early eighties. Why should the pattern for daily cigarette use be so different from that for marijuana use, when senior-year data showed rates of daily use declining for both drugs during the later years of the study? The answer, we think, lies in the fact that cigarette use is so highly addictive; although many of the users would like to quit, it seems likely that these cohort differences will continue to exist for quite some time.

There is another type of analysis using follow-up data which makes greater use of the panel feature of our design—the fact that our follow-up data are obtained from the same individuals as our base-year data. We have thus been able to explore whether rates of drug use change when individuals leave high school and move into other roles, living arrangements, etc. An example of our findings is presented in Figure 6. Part C of that figure is the clearest illustration of the phenomenon: those who were cohabiting at the time of the first follow-up had had much higher rates of marijuana use during high school as well as afterwards; but the other three groups showed similar rates of use as seniors and then diverged afterwards—those who continued to live with parents showed the same proportions of marijuana users as in senior year, those living with a spouse showed lower proportions, and those in other living arrangements showed increased proportions. Somewhat similar shifts appeared for instances of heavy drinking, and for use of other illicit drugs; however, there were not such clear instances of differential shifts for cigarette use—again, we think, because the use of this drug is driven more by prior use (addiction) than by current social environment.

I have limited my illustrations to those involving drug data, but I should note again in closing that the Monitoring the Future project collects data about a wide range of other topics. We include these other topics because we as researchers find them interesting and important, and also because they make the survey more balanced and interesting in the eyes of students and school officials than would be a drug-only survey. The sponsor has wisely recognized the advantages—and the extremely low additional costs—of including these other topics in the surveys. One of the results is that we have the capability of examining a wide range of possible correlates of drug use. A further advantage is that we are able to seek additional funding to carry out more extensive analyses focused specifically on other topics in the survey. Thus, Regula Herzog and I were able a few years ago to analyze data on sex role attitudes, and more recently Willard Rodgers and I have been able to analyze data on quality of life.

The design of the Monitoring the Future project is open-ended, as you have probably gathered. While we would welcome a dramatic decline in drug use by students and young adults, our more realistic assessment is that it will continue to be important to monitor such drug use. We also think it important—just as when we first conceived of the project 17 years ago—that many other aspects of the lifestyles and values of youth continue to be monitored. Thus we think that the collection, analysis, and reporting of these kinds of data should go on for a long time—especially since the lengthening span of time makes the analyses richer with each new year of data collection.

Let me close on a personal note. My colleagues and I are often asked how we can stick with projects like these for such long periods of time. A part of the answer, which I hope I have already illustrated, is that the data are so rich. Another part of the answer is that in a longitudinal study the investments in questionnaire development, procedures of data collection, respondent rapport, and the like, have a longer period of payoff. We do not keep reinventing the same wheel—although the other side of that coin is that we take the first invention very seriously, since we expect to have to live with it for a long time. Still another part of the answer is that both the technical capabilities and also the organizational climate of the Institute for Social Research have greatly facilitated this sort of work. But perhaps the most important part of the reason that I have enjoyed working on these kinds of projects over long intervals is that I have been very fortunate in the colleagues and collaborators I have had. I cannot begin to mention all who have been important in this role, but I do want to note that Lloyd Johnston and I have continued to collaborate throughout the whole span of the Monitoring the Future project; and we were joined soon after its launching by Patrick O'Malley, who now shares fully in directing the project and analyzing and reporting the data. The sort of teamwork we have experienced has a great deal to do with making the whole enterprise worthwhile.

Table 1

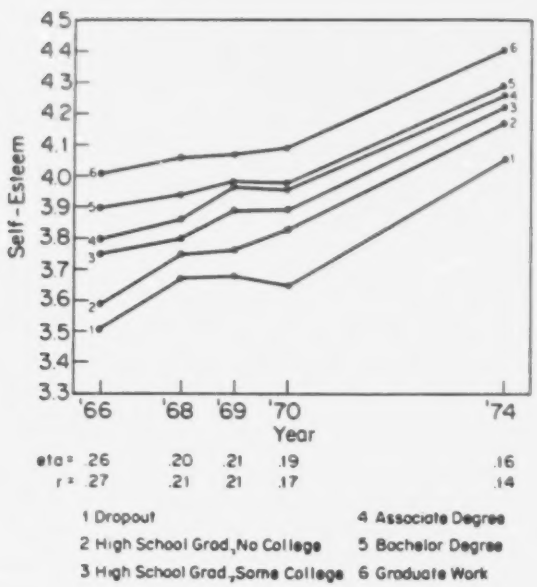
Data Collections from Young Men

Data Collection	Time 1	Time 2	Time 3	Time 4	Time 5
Date	Fall 1966 (tenth grade)	Spring 1968 (eleventh grade)	Spring 1969 (twelfth grade)	Spring 1970 (grade 12 + 1 yr.)	Spring 1974 (grade 12 + 5 yrs.)
Procedure	Individual interviews; group-administered tests and questionnaires	Individual interviews and questionnaires; $2 payment	Group-administered questionnaires; $5 payment	Individual interviews and questionnaires; $10 payment	Mail questionnaires; $10 payment
Location	Schools	Neutral Site	Neutral Site	Neutral Site	Respondent's Home
Number of Respondents*	2,213	1,886	1,799	1,620	1,628
Percentage of Original Sample (N = 2,277)	97.2	82.8	79.0	71.1	71.5
Percentage of Time 1 Panel (N = 2,213)	100	85.2	81.3	73.2	73.5

*Probability sample located in 87 schools.

Figure 1

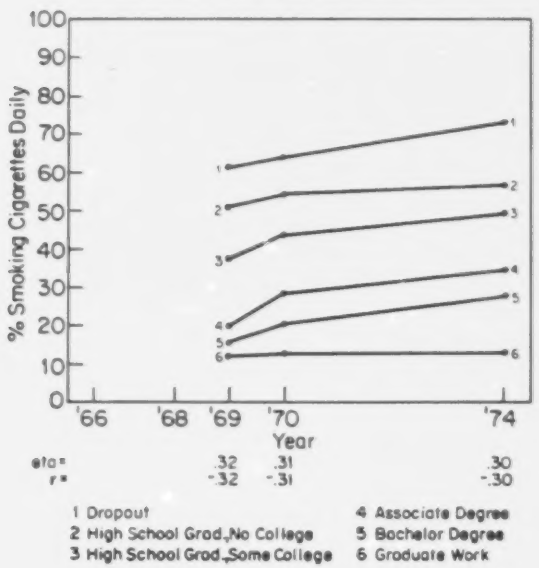
Self-Esteem Related to Educational Attainment



NOTE: The data underlying this figure can be found in Appendix E, Table E-5-1.

Figure 2

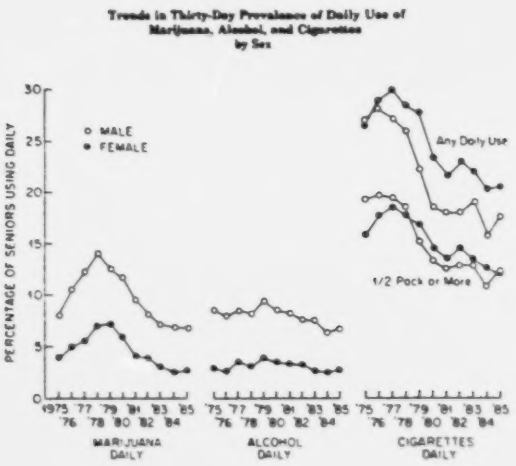
Cigarette Smoking Related to Educational Attainment



NOTE: The data underlying this figure can be found in Appendix E, Table E-9-4.

Source: Bachman, J.G.; O'Malley, P.M.; and Johnston, J., Youth in Transition, Volume IV: Adolescence to Adulthood — Change and Stability in the Lives of Young Men. Ann Arbor: Institute for Social Research, The University of Michigan, 1978.

Figure 3



NOTE: Daily use for alcohol and marijuana is defined as use on 20 or more occasions in the past thirty days. Daily use of cigarettes is defined as smoking one or more cigarettes per day in the past thirty days.

Figure 4

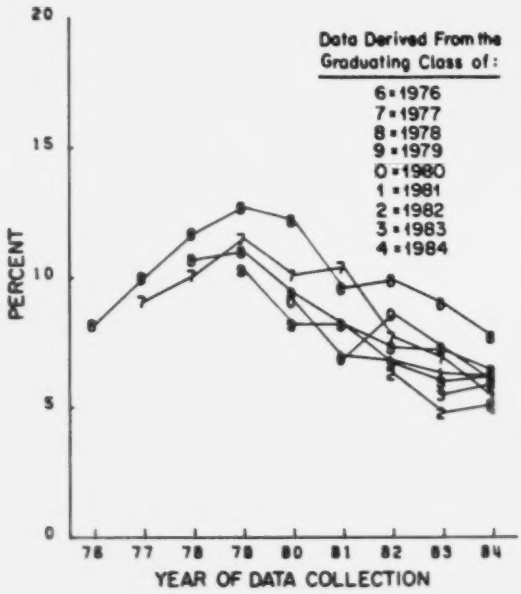

Marijuana: Trends in Thirty-Day Prevalence of Daily Use Classes of 1976-1984 Followed Through 1984
Data Derived From the Graduating Class of:
6 = 1976
7 = 1977
8 = 1978
9 = 1979
0 = 1980
1 = 1981
2 = 1982
3 = 1983
4 = 1984
PERCENT
YEAR OF DATA COLLECTION

Figure 5

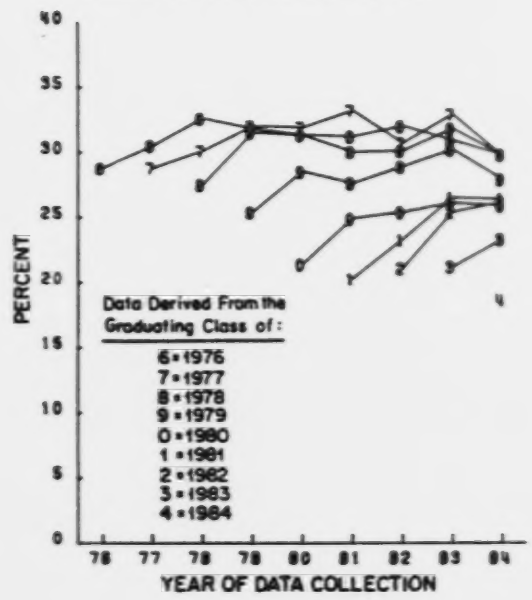
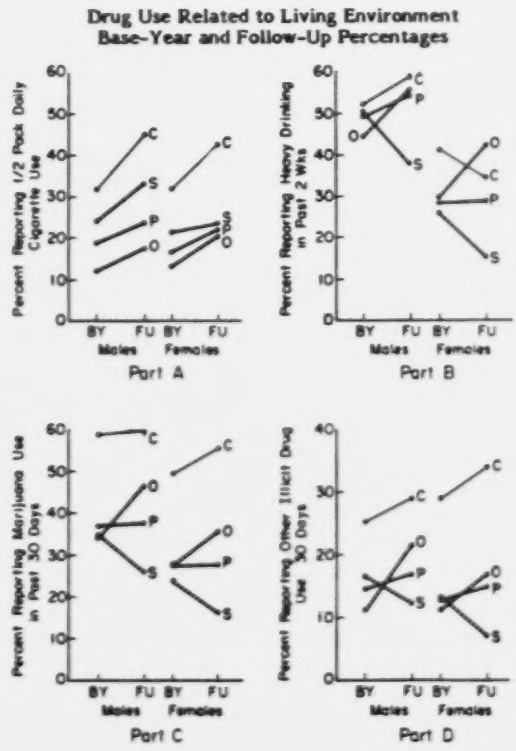

Cigarettes: Trends in Thirty-Day Prevalence of Daily Use Classes of 1976-1984 Followed Through 1984
Data Derived From the Graduating Class of:
6 = 1976
7 = 1977
8 = 1978
9 = 1979
0 = 1980
1 = 1981
2 = 1982
3 = 1983
4 = 1984
PERCENT
YEAR OF DATA COLLECTION

Figure 6


Drug Use Related to Living Environment Base-Year and Follow-Up Percentages
Percent Reporting 1/2 Pack Daily Cigarette Use
Percent Reporting Heavy Drinking in Past 2 Wks
Percent Reporting Marijuana Use in Past 30 Days
Percent Reporting Other Illicit Drug Use in Past 30 Days
BY
FU
Males
Females
Part A
Part B
Part C
Part D

NOTES: S = living with spouse (7% of Males; 16% of Females);
C = living with cohabitant of opposite sex (unmarried) (3% Males; 5% Females);
P = living with parent(s) (68% Males; 45% Females);
O = all living arrangements (82% Males; 34% Females).

BY = base-year data, from seniors in 1975-1979;
FU = follow-up data, from graduates 1-3 years after high school (collected in 1978-80).

Sources: Johnston, L.D.; O'Malley, P.M.; and Bachman, J.G., Drug Use Among American High School Students, College Students, and Other Young Adults, National Trends Through 1985 (National Institute on Drug Abuse). Washington, D.C.: U.S. Government Printing Office, 1986; O'Malley, P.M.; Bachman, J.G.; and Johnston, L.D., "Period, Age, and Cohort Effects on Substance Use Among American Youth, 1976-82." American Journal of Public Health, July 1984, Vol. 74, No. 7, pp. 682-688; and Bachman, J.G.; O'Malley, P.M.; and Johnston, L.D., "Drug Use Among Young Adults: The Impacts of Role Status and Social Environment." Journal of Personality and Social Psychology, 1984, Vol. 47, No. 3, pp. 629-645.